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micromedia
a division of IHS Canada

20 Victoria Street
Toronto, Ontario M5C 2N8
Tel: (416) 362-5211
Toll free: 1-800-387-2689
Fax: (416) 362-6161
Email: info@micromedia.on.ca

Office of the Fire Marshal

OFM-TG-04-1999

CRITERIA AND PROCESS FOR EVALUATING PROGRAMS FOR TRAINING OF PERSONS TESTING, INSPECTING AND MAINTAINING FIRE ALARM SYSTEMS

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GUIDELINE

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Abstract

To meet the requirements of Article 1.1.5.2. of the Ontario Fire Code, an individual that performs required annual testing, annual inspections or maintenance on fire alarm systems shall successfully complete a program or course acceptable to the Fire Marshal. The Fire Marshal has established a Fire Alarm Training Program Review (FATPR) Committee to advise him in determining acceptability of these programs. This guideline sets out the criteria and process for acceptability.

Program/course providers are required to satisfy the terms and conditions established in the guideline. As well, they are required to provide a comprehensive description of the program/course and curriculum, which includes program content recommended by the Office of the Fire Marshal.

1.0 INTRODUCTION

To meet the requirements of Article 1.1.5.2. of the Ontario Fire Code, an individual that performs required annual testing, annual inspections or maintenance on fire alarm systems shall successfully complete a program or course acceptable to the Fire Marshal. The Fire Marshal has established a Fire Alarm Training Program Review (FATPR) Committee to advise him in determining acceptability. This document sets out the criteria and process for acceptability.

Program review by the FATPR Committee will focus on the knowledge and skills directly related to testing, inspecting or maintaining fire alarm systems. Programs with a broader focus may also be reviewed. Programs will be evaluated for acceptance based on the adequacy and appropriateness of information submitted. Programs may originate or be delivered inside or outside the province of Ontario.

1.1 Applicant Terms and Conditions

- Applicants shall complete and submit the "Application to the Fire Alarm Training Program Review Committee" and "Company/Organization Information" forms attached to this guideline. Applicants may also wish to use the attached Program Information Checklist for the program/course information submitted with the application.
- The time for processing the application and reviewing the program by the FATPR Committee will take 8-10 weeks. The FATPR Committee reserves the right to request additional information or documentation at any time during the review process.
- The applicant will be advised in writing of the Fire Marshal's decision regarding the acceptability of the program.
- The confidentiality of applicant information and documentation along with the proceedings conducted by the FATPR Committee will be respected.
- Program acceptability is granted for a 4 year period of time with the provision that the FATPR Committee has the right to monitor, review and withdraw program acceptance for cause at any time.

- The FATPR Committee reserves the right to arrange with the program provider for observation of content delivery at any time.

- If program acceptance is granted, the applicant agrees to abide by the conditions outlined in the notice of acceptance regarding promoting and advertising of the accepted program.

Organizations with acceptable programs must agree to the conditions outlined above. The Office of the Fire Marshal will maintain, and make publicly available, a list of acceptable programs.

The requirements set forward in this document are intended to be minimum criteria and are not intended to limit the scope or creativity of training programs.

2.0 ITEMS TO INCLUDE WITH THE APPLICATION FOR PROGRAM REVIEW

2.1 Program Description

Provide a brief description of the program goals, purpose and intent, as well as the type of participants it is directed toward.

Acceptable programs will provide a wide base of knowledge of fire alarm systems and should not be limited to a single product or manufacturer.

2.2 Accessibility/Availability

Information on availability of the program locally, province wide or outside the province shall be provided. Details of access restrictions to the program, such as to members of a trade, association, affiliation or company shall be provided.

Explain the delivery method by which the program is to be provided, for example community college, trade organization classrooms, night school or continuing education, or correspondence course format. If more than one delivery method is to be used, state which parts of the program are to be delivered in each manner and the percentage this constitutes.

2.3 Time Allocation

State the approximate amount of student time needed to complete the entire program and each unit/course/module within the program.

2.4 Costs

Include registration fees and an estimate of the cost of program materials for the student. Any additional fees for the program should also be included.

2.5 Student Prerequisites

Explain any prerequisite qualifications necessary for student enrollment in the program and in each unit/module/course. This may include completed academic level, trade qualification, prior experience or completion of a prior unit/module/course. Identify the proof of qualifications that will be accepted.

2.6 Performance Outcomes

Programs submitted for review and acceptance must prepare individuals with the training to perform tests, inspections and maintenance on fire alarm systems as outlined in the following list. Clearly explain how the program covers these skills. Explain any discrepancies or variations.

- Test and inspect fire alarm systems as required in the Fire Code and CAN/ULC-S536, and make a record of the testing/inspection.
- Replace field devices with comparable units. This would include manual pull stations, heat detectors, smoke alarms, alarm bells and speakers.

- Test and verify field devices that have been relocated within the same fire zone.
- Replace fuses, lamps, plug-in modules or batteries with identical replacements as defined by the fire alarm maintenance literature.

2.7 Program Content

Specific objectives must be written for the training program and should, at a minimum, relate and support the above performance outcomes and the contents of the attachment 'Recommended Program Content'. Electrical safety of personnel shall also be a component of the program content if not a program prerequisite. Discrepancies must be identified and explained.

Example of Objective - Course participants will describe in their own words basic electricity including AC and DC circuits, open circuits, short circuits, Ohms Law etc.. They will perform simple power calculations such as V=IR and $W=I^2R$. They will demonstrate appropriate safety practices including disconnecting and testing main and emergency power supplies before replacing signaling devices.

Although the program may be offered both inside or outside Ontario, only programs that include content material specific to Ontario, such as the Ontario Fire Code and the Ontario Electrical Safety Code, as listed in the attachment, will be acceptable.

2.8 Program Organization

The submission should describe how the program is organized and the rationale used for the organization. Indicate the instructional units, courses, modules or other methods of dividing or grouping the instruction.

2.9 Program Consistency

Where program delivery is provided by various instructors at different locations, including outside Ontario, state what controls are to be implemented to ensure that the program delivery is consistent and within the prescribed content and time allocations.

2.10 Instruction

Explain the criteria for choosing qualified instructors to teach course material covering the content list of the attachment 'Recommended Program Content' and Section 2.6. This criteria should include manipulative skills experience in fire alarm servicing or experience as an educator trained in the same field. The submission shall also list instruction guides, training aids, models, equipment for manipulative skills training and audio visual resources available.

2.11 Student Materials

Identify program/course materials required by the student. Identify program/course materials that are available for use by the students such as workbooks, handout notes, text books, manuals or standards.

2.12 Student Feedback

Details of procedures for receiving written feedback from the students about the program shall be provided. Include a sample course evaluation form. Completed student feedback records shall be kept on file until the next cycle of program review by the FATPR Committee and shall be available upon request.

2.13 Exemptions

"Exemption" is a process to allow students to be excused from or be given credit for completion of a course, due to previous acceptable documented training.

Explain whether you permit course exemptions. If you do, state your policy and the criteria.

2.14 Challenge Testing

"Challenge testing" is a process by which a person, due to extensive experience or undocumented learning in fire alarm servicing, can petition to be tested to show competency with the program material, without going through a

course/unit/module or the entire program.

Explain your policy and criteria for "challenge testing", if provided. Include specific details related to materials listed in the attachment 'Recommended Program Content' and Section 2.6 for "challenge testing". Testing could include written and/or manipulative skills components. A minimum passing grade should be stated and explained.

If a "challenge testing" policy is not provided by the program, then its omission should be clearly stated.

2.15 Completion of the Program

Documentation presented to the student at the successful completion of the program must include, as a minimum,

- the student's name,
- the title of the program,
- the education facility or organization providing the program,
- the date of successful completion of the program, and
- a statement that specifies that the program meets the compliance requirements of Article 1.1.5.2. of the Ontario Fire Code.

Include a sample of the documentation. Final documentation shall be controlled by the program provider from one central source. Describe the measures used for control of documentation.

2.16 Student Evaluation

Explain the procedures used to evaluate the knowledge and skills learned by each student from the program to ensure competency. These may include written tests, written assignments, on-the-job assignments, manipulative skills demonstrations or other applicable methods. Procedures used must be valid, impartial, and related to the knowledge and skills required.

For the purpose of evaluating the program to meet the requirements of Fire Code Article 1.1.5.2., grading of the student for competency with the content material listed in the attachment 'Recommended Program Content' and Section 2.6 should be maintained separate from grades obtained from other course material. Sample questions or manipulative skills demonstrations required for unit/module/course tests or final examinations may be included in the submission. Rationale for any variations from the above shall be explained.

Provide information regarding pass/fail criteria for written and manipulative skills competency testing of the program material and your rationale.

2.17 Examination Controls

Provide procedures and policies for the following:

- an evaluation security system to prevent compromising the test and examination process
- time constraints placed on tests and exams to provide sufficient time for completion
- a controlled method of marking tests and examinations to ensure fairness and impartiality
- pass/fail criteria specified
- students notified of their marks or pass/fail status
- provisions included for students to review or appeal their pass/fail status
- students who fail and request a retest.

2.18 Records

Procedures shall be established for maintaining a record keeping system that ensures the retrievability, by name, of persons successfully completing the program, for an indefinite period. Records shall include the name of the educational institution, year of completion of program by student, and name and some other identifier of the student. These records shall be available to the Office of the Fire Marshal or the FATPR Committee upon request.

2.19 Continuing Education

Provide details of planned follow-up training courses for persons who have successfully completed the program. Include information on the scope of the training, the method of delivery and the proposed frequency of these updates.

2.20 Curriculum Update

Explain your method for updating the curriculum of the program and submit any curriculum changes to the FATPR Committee. The FATPR Committee may conduct a curriculum review of an accepted program at any time.

Recommended Program Content

The contents of the program submission should include, as a minimum, the following itemized list of topics:

1. Basic electricity and electronics including AC and DC circuits, open circuits, short circuits, Ohms Law and power calculations. Electrical safety of personnel should also be included unless required as a prerequisite.
2. Operation of various types of initiating devices; single and two-stage manual pull stations, heat detectors, smoke detectors and sprinkler system interface devices.
3. Advantages, disadvantages and problems encountered with each type of device.
4. Signaling devices such as bells, horns, loudspeakers, strobes and temporal pattern devices.
5. Location, spacing and mounting requirements for the various types of detectors.
6. Inspection and test methods for the various types of detection devices.
7. Methods for testing smoke detector sensitivity and cleaning smoke detectors.
8. Supervisory devices for sprinklers and standpipe systems. Includes their function, operation in the system and testing.
9. Ancillary circuits such as HVAC, elevator recall, electromagnetic locking devices, magnetic door hold-open devices, monitoring and extinguishment systems.
10. The concept of electrical supervision, "T" tap connections, end of line devices, and Class A and Class B circuits.
11. Fire alarm signaling operation. Includes single stage, two-stage and modified two-stage systems.
12. Power supplies for fire alarm systems.
13. Testing standby power supplies for fire alarm systems.
14. Fire alarm annunciators, control centres and Central Alarm and Control Facilities (CACF).
15. Voice communication systems.
16. Locating and mounting speakers.
17. Firefighter telephone system operation.
18. Audibility of alarm signals and voice communication signals.
19. Distributed alarm systems.
20. Multiplex alarm systems.
21. Intelligent devices.
22. Wiring methods of multiplex systems.
23. Concepts of input and output circuit programming.
24. Understanding of scope and limitations of various software programming and access levels.
25. The checklist in the appendix of CAN/ULC S536 and the meaning and test for each of the items.
26. Section 2.6 -- Performance Outcomes list which describes limitations of responsibilities.
27. Fire Safety Plan for alternative procedures during fire alarm repairs or testing.
28. Standards --
    CAN/ULC S536 -- The Standard for the Inspection and Testing of Fire Alarm Systems
    CAN/ULC S537 -- The Standard for the Verification of Fire Alarm Systems
    CAN/ULC S524 -- The Standard for the Installation of Fire Alarm Systems
29. Relevant portions of Sections 12 and 32 of the Ontario Electrical Safety Code.
30. Relevant portions of Ontario Fire Code Parts 1, 2, 6 and 7.
31. Technician CAN DO and CANNOT DO list as developed by the OFM.

Application to the Fire Alarm Training Program Review Committee

Program Name:

_____

It is understood that program acceptance entails adherence to the terms and conditions as established by the Fire Marshal and the Fire Alarm Training Program Review (FATPR) Committee.

The statements and information contained in this application form are, to the best of my knowledge, truthful and accurate.

I understand that program acceptance is subject to the right of review by the FATPR Committee at any time. I will provide the necessary documentation and supply further information as determined by the FATPR Committee.

Title of Applicant Organization/Company:

_____

Name and Title of Official:

_____

Date:

_____

Completed application forms and supporting documentation should be sent to:
(NOTE: please do not include personal student information with your documents)

Fire Alarm Training Program Review Committee
Office of the Fire Marshal
5775 Yonge St., 7th Floor
North York, Ontario M2M 4J1
Phone: (416) 325-3100
Fax: (416) 325-3213

Company/Organization Information

APPLICANT INFORMATION (Please print/type):

Applicant's Name:

_____

Company/Organization:

_____

Type of Business: _____ Year of Establishment:

_____

Address:

_____

Phone: _____ Fax: _____ E-Mail:

_____

Name of Officer of Company/Organization:
Has your company/organization operated under another name? o yes o no If yes, what name?
Mandate of the Company/Organization:
Stated Educational/Training Philosophy:
Indicate Your Reason for Conducting This Program:
Anticipated Student Registration Cost of Program:
Describe Your Prospective Client Groups:
Other Related Courses or Programs Offered by Your Company:

Program Information Check Sheet

Carefully consider the following items that will be used by the FATPR Committee to review your program (unit/module/course). When you are submitting your information for review, please refer to this list to help guide what you send in.

Agency _____ **Date**_____ **Contact** _____		
Items to Include in Program Submission	Included	Comments
1. **Program Description:**		
program goals, purpose, intent		
Type of student		
Provides wide base of fire alarm knowledge		
2. **Accessibility/Availability**:		
Locations listed		
Access restrictions stated		
Delivery methods		
3. **Time Allocation:**		
Time allocated to program and program sections		
4. **Costs:**		
Registration, materials for program as a whole		
Other fees		
5. **Student Prerequisites:**		
For program entry		
For unit/module/course		
6. **Performance Outcomes:**		
Each outcome covered		
Discrepancies or variations explained		
7. **Program Content:**		
All materials in Appendix A "Recommended Program Content" are addressed		
Appropriate parts of Ontario Fire Code and Ontario Electrical Safety Code are included		
Specific objectives are stated		
8. **Program Organization:**		
Clearly explained		
9. **Program Consistency:**		
Adequacy of control measures		
10. **Instruction:**		
Reasonable instructor qualification criteria		

Varied and appropriate training materials		

Items to Include in Program Submission (continued)	Included	Comments
11. **Student Materials:**		
appropriate learning materials for students		
12. **Student Feedback:**		
appropriate method to gather feedback		
sample course evaluation form included		
procedure to retain feedback information		
13. **Examination Controls:**		
security to prevent compromising of test/exam process		
appropriate time constraints		
fair and impartial evaluations of tests		
pass/fail criteria explained		
timely notification of marks and pass/fail status		
test/exam review or appeal procedure		
retest policy		
14. **Exemptions:**		
policy and criteria stated		
15. **Challenge Testing:**		
policy and criteria stated		
16. **Completion of Program:**		
sample of program completion documentation provided		
control measures explained		
17. **Student Evaluation:**		
methods explained		
valid, impartial, related to knowledge and skills		
pass/fail criteria explained		
18. **Records:**		
system established		
19. **Continuing Education:**		
scope, method , and frequency of follow-up training courses for students that have completed program		
20. **Curriculum Update:**		
method described		

Additional Comments:

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